

Anneckeocoris, a new genus of Stygnocorini from the Cape, with notes on the biology and distribution of the South African fauna (Hemiptera: Lygaeidae)

by

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A new genus and species of Lygaeidae, *Anneckeocoris brunneus*, are described from the southwest Cape and assigned to the tribe Stygnocorini. Host plant, habitat information and/or nymphal descriptions are given for *Paracnemodus capensis* Slater, *Sweetocoris parafenestratus* O'Rourke, *S. slateri* O'Rourke, *S. minutus* (Scudder) and *Lasiosomus lasiosomoides* (Bergevin). The eggs of *S. minutus* and *S. drakensbergensis* O'Rourke are described. The distributions of *Paracnemodus*, *Lasiosomus* and *Sweetocoris* are discussed, and the possible paraphyly of the Stygnocorini is suggested. Figures are included of the macropterous and coleopteroid forms, the abdomen and the spermatheca of *Anneckeocoris brunneus*.

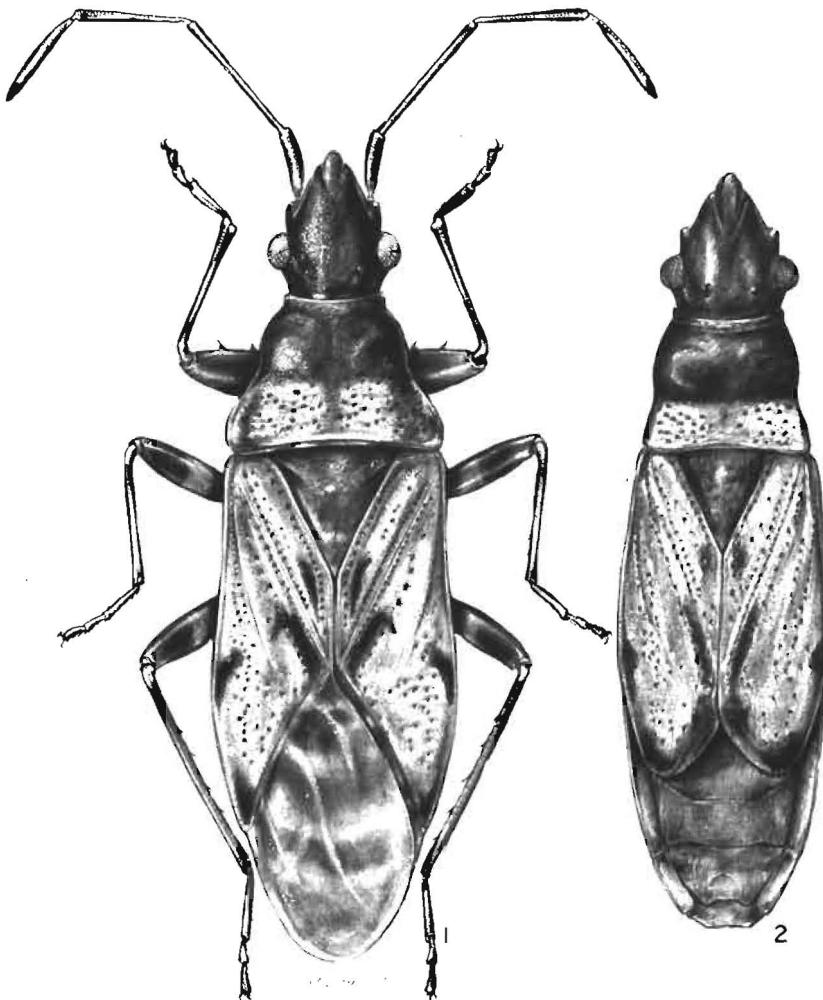
In the late 1950's I was working on an analysis of the South African lygaeid fauna based chiefly upon material from the Lund University Brinck-Rudebeck Expeditions. Included in this material was a single macropterous female without antennae that could not be assigned to any existing genus. It was therefore not included in my paper (Slater 1964). During nearly a year of intensive field work in South Africa in 1967-1968 our party failed to obtain additional specimens. Recently, in the course of determining material for the National Collection of Insects (Pretoria), I have been able to examine a second female (a coleopteroid) in excellent condition. It thus seems appropriate not to delay the formal description any longer, in view of the considerable importance members of the South African Stygnocorini have for an understanding of the phylogeny and zoogeography of rhyparochromine Lygaeidae, particularly taxa of the closely related Ozophorini.

I have also taken this opportunity to bring together some biological information and nymphal descriptions of stygnocorine taxa not treated by Slater & Sweet (1970).

Anneckeocoris gen. nov.

Head elongate, porrect non-declivit, eyes set well away from anterior margins of pronotum. Head trichobothria well developed. Head subshining not differentiated in texture from remainder of dorsal surface. Antenniferous tubercles visible from above. First antennal segment exceeding apex of tylus by one-half to one-third its length. Bucculae low, elongate, meeting in an elongate tapering 'V'. Pronotum with a

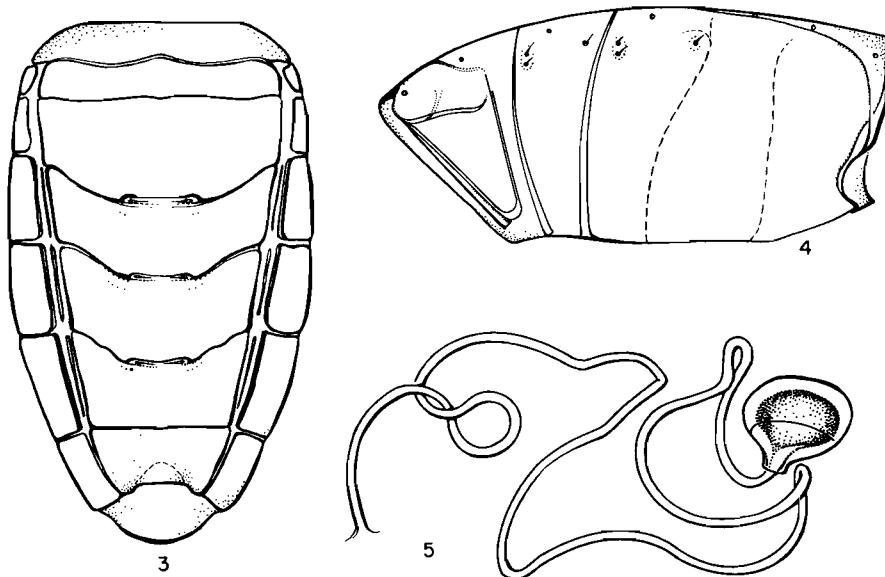
well-defined anterior collar, the latter not however delimited posteriorly by a definite groove. Lateral pronotal margins nearly rounded, but with a very slight obtuse ridge present. Pronotal calli not contiguous, large, quadrate, impunctate. Punctures of posterior pronotal lobe conspicuous but scattered, with distance between punctures greater than diameter of a puncture. Transverse pronotal impression obsolete. Scutellum lack-



Figs 1 & 2. *Annekecoris brunneus* spec. nov. 1. Holotype ♀, dorsal view. 2. Coleopteroid form, dorsal view.

ing a median carina. Clavus with three rows of punctures, those of median row fewer than those of marginal rows. Apical corial margin straight. Metathoracic scent gland auricle short, linear, moderately curved posteriorly. Evaporative area occupying inner one-half of metapleuron, truncate distally, angled obliquely from anterior to posterior margins. Fore femora moderately incrassate, armed below with three conspicuous spines (inner spine obscured by pronotum in Fig. 1). Abdominal tergum with well-developed scent-gland scars present between terga 3–4, 4–5, 5–6 (Fig. 3). Inner laterotergites present on segments four, five and six, those on segment four faint and obsolete (Fig. 3). All abdominal spiracles ventral, those on sterna two, three and four located on the sclerite above the epipleural impression (Sweet 1967) (Fig. 4). Sutures between sterna 3 and 4 and 4 and 5 obsolete, scarcely discernible, that between 4 and 5 only slightly produced anteriorly (Fig. 4), not reaching anterior margin (but under reflected light at high magnification a faint vestige of a 'line' can be seen). Posterior pair of trichobothria on sternum 5 very small, placed one above the other and closer to posterior margin of sternum 5 than to spiracle (Fig. 4). Spermatheca with a simple unflanged bulb and an elongate complexly coiled apparently undifferentiated duct (Fig. 5). Metatibiae (but not metafemora) with rows of strong spines present.

Coleopteroid morph (Fig. 2) with calli of anterior pronotal lobe swollen, elevated above reduced posterior lobe. Claval commissure longer than length of scutellum; clavus and corium fused. Hemelytron reaching laterally over abdominal sternum five, apical margin strongly angled anteriorly to meson with a small lobate membrane remnant present which does not extend caudad of apex of corium.



Figs 3–5. *Anneckecoris brunneus* spec. nov. 3. Abdominal tergum, dorsal view. 4. Abdominal sternum, lateral view. 5. Spermatheca.

Type-species: *Annekecoris brunneus* spec. nov.

This genus is named in honour of the late David Annecke of the Plant Protection Research Institute, Pretoria, in recognition of his major contributions to numerous aspects of basic entomological effort in South Africa and to recognize his kindness and assistance to our field party during the year we spent in South Africa in 1967 and 1968.

Annekecoris will key to the New Zealand genus *Margareta* B. White in Slater & Sweet's (1970) world key to the genera of Stygnocorini because of the three-spined fore femora, lack of a complete suture between abdominal sterna 4 and 5 and the elongate slender spermathecal duct and simple spermathecal bulb (Fig. 5). Although no cladistic analysis of the stygnocorine taxa has yet been attempted, I believe that the sister taxon of *Annekecoris* will not prove to be *Margareta* but rather another Cape genus, *Paracnemodus* Slater. Both of these genera have similarly shaped heads; non-carinate, almost completely rounded lateral pronotal margins; almost identical metathoracic scent-gland auricles and evaporative areas; and similarly developed fore wings in the coleopteroid morph. The presence of three fore-femoral spines, lack of stout spines on the hind femora, incomplete 4-5 abdominal sternal suture and much more elongate spermathecal duct will readily distinguish *Annekecoris* from *Paracnemodus*.

From the New Zealand genus *Margareta* it may be distinguished by having three rather than four rows of claval punctures, non-punctate pronotal calli, a less strongly curved and less attenuated metathoracic scent-gland auricle, a much less hirsute dorsal surface and non-crenulate margined sutures between abdominal sterna 3-4 and 4-5.

Slater & Sweet (1970) treat the Stygnocorini as a group of relatively primitive Rhyparochrominae. They did imply that it is a monophyletic assemblage without specifically so stating. It should be noted that the genera included in the Stygnocorini have not yet been shown to have a single exclusive synapomorphic feature. Within the vast assemblage of Rhyparochrominae whose nymphs have a Y-suture this tribe is thus 'held together' only by symplesiomorphic characters and may be paraphyletic. Indeed a number of stygnocorine genera resemble genera at present included in the Ozophorini. The latter tribe differs from the Stygnocorini only in lacking inner laterotergites.

Annekecoris brunneus spec. nov., Figs 1-5

General coloration variegated brown and pale testaceous as follows: head, anterior pronotal lobe (with exception of marginal collar), scutellum, pleural surfaces (with exception of posterior lobe of metapleuron) completely reddish-brown; posterior pronotal lobe testaceous but with a faint median brown vitta and an additional faint vitta on either side between meson and lateral margins. Clavus and corium testaceous; an elongate brown patch on clavus at level of apex of scutellum; an irregular dark macula at inner apical angle of corium, a curving dark macula along lateral corial margin slightly posterior to level of distal end of claval commissure; a dark macula at apex of corium. Membrane uniformly hyaline. Fore femora completely brown; meso- and metafemora paler on proximal halves. Tibiae testaceous with contrasting brown distal ends; fore tibiae suffused with reddish-brown along shaft. First tarsal segment of all legs testaceous, third segment brown, second segment slightly to considerably suffused with pale brown. Antennae yellow-brown (paratype). Punctures uniformly dark brown.

Head strongly convex across vertex; length head 1,02 (this and all other measurements are in mm), width 0,98, interocular space 0,62. Lateral margins of pro-

notum shallowly sinuate. Posterior pronotal lobe elevated above anterior lobe, humeral angles evenly rounded; transverse pronotal impression evident laterally, obsolete mesally; length pronotum 1.04, width 1.64. Scutellum with a shallow transverse groove across distal one-third; scutellum conspicuously swollen caudad of groove; length scutellum 1.02, width 1.10. Lateral corial margins shallowly sinuate, length claval commissure 0.70. Midline distance apex clavus—apex corium 1.18; midline distance apex corium—apex membrane 0.78. First labial segment reaching posterior margin of compound eye, length labial segments (from paratype) I 0.96, II 0.82, III 0.86, IV 0.48; labium reaching posterior margin of metacoxae. Antennae relatively slender, terete; length antennal segments (from paratype) I 0.52, II 1.04, III 1.0, IV 0.84. Total length 5.52.

The coleopteroid female (Fig. 2) has a much longer anterior than posterior pronotal lobe and the anterior lobe is nearly as broad as the distance across the humeral angles. Length claval commissure 0.90, length wing 2.38. This coleopteroid has a number of very elongate upstanding hairs on the dorsal surface. The anterior pronotal lobe has a series of decumbent silvery hairs between and laterad of the calli and similar hairs on the head and anterior half of the scutellum. By contrast the macropterous holotype is nearly glabrous. I believe, however, that the specimen is rubbed, as three long hairs are still present on the pronotum and scutellum and there are still patches of silvery pubescence present on the head and anterior area of the pronotum.

MATERIAL EXAMINED. Holotype ♀, SOUTH AFRICA: Cape Prov., Maanschijnkop 7 miles E Hermanus, 21.xii.1950 (No. 93). (Swedish South Africa Expedition 1950–1951), (Brinck-Rudebeck), (swept in dry meadow). In Lund University Collection. Paratype ♀, Cape Prov., Bredasdorp, 23.i.1970 (M. W. Strydom). In National Collection of Insects, Pretoria.

The coleopteroid paratype is quite similar to coleopteroids of *Paracnemodus capensis* Slater (macropters of the latter are unknown), but in addition to such generic differences as the three-spined fore femora and incomplete 4–5 abdominal sternal suture in *Anneckecoris brunneus* the two may be distinguished as follows: in *Paracnemodus* the pronotum is smooth dorsally and nearly cylindrical, whereas in *Anneckecoris* the swollen anterior lobe not only gives a tumidity to that area of the dorsal surface but also causes the lateral pronotal margins to be noticeably sinuate rather than nearly straight. The eyes of *Paracnemodus* are much larger than those of *Anneckecoris*. They occupy most of the lateral head surface and are almost in contact with the anterior margin of the pronotum. The evaporative area occupies the entire posterior margin of the mesopleuron in *Anneckecoris* but terminates at the outer third in *Paracnemodus*.

Paracnemodus capensis Slater

***Paracnemodus capensis* Slater, 1964: 218–220.**

This genus and species were originally described and figured by Slater (1964) based on a single female from Tradouwpas, Langeberg (C.P.), and placed in the Myodochini. Slater & Sweet (1970) transferred the genus to the Stygnocorini and illustrated the spermatheca and aedeagus. No other information has been provided subsequent to the original description.

P. capensis is apparently restricted to the southern Cape and probably feeds primarily upon the seeds of *Erica*. On 7 February 1968 our party took specimens just

north of the summit of Outeniqua Pass (C.P.) in heavy seed litter below *Erica* sp. in company with *Botocudo aethiops* (Dist.), *Sweetocoris parafenestratus* O'Rourke and *S. thunbergi* O'Rourke. It was also taken below *Erica* sp. on an open hillside 6 miles east of Plettenberg Bay (C.P.) on 12 February 1968 in an assemblage of rhypharochromines. On 24 January 1968 specimens were taken on Table Mountain in seed litter of *Erica* near *glophrya* Killick and also under *Stoebe prostrata* L. It was common at Knysna Head under subclimax vegetation among which were many Ericas, Proteas, etc. It also occurred on a hillside under mixed *Erica* spp. and *Stoebe* sp. at Bainskloof (C.P.) on 21 January 1968.

Paracnemodus capensis is now known to be distributed in the Cape floral region from Cape Town to Knysna, as the following records indicate.

1 ♂ Table Mountain, Cape Town, Summit 1037 m, 5.x.1974 (Sam Slater, J. Ecker); 1 (no abd.) just S. Outeniqua Pass Summit S. Oudtshoorn 7.ii.1968 (T. Schuh, J. A. & S. Slater, M. Sweet); 1 ♀ Outeniqua Pass 15 mi. N. of George, 801 m, 20.xi.1967 (M. H. Sweet) and (No. 86); 1 nymph just W. of Knysna 8.ii.1968 (T. Schuh, J. A. & S. Slater, M. Sweet); 1 ♂ just E. of Knysna 9.ii.1968 (T. Schuh, J. A. & S. Slater, M. Sweet); 1 ♂ 4 ♀ 1 nymph Knysna Head 9.ii.1968 (T. Schuh, J. A. & S. Slater, M. Sweet).

Description of fifth-instar nymph (Knysna Head 9.ii.1968)

Head, pronotum, mesothoracic wing pads, scutellum, legs, labium and antennae uniformly pale yellowish tan. Fourth antennal segment tinged with red. Third tarsal segment and apex of labium infuscated. Abdomen a strongly contrasting mottled red, interspersed with pale yellow flecks. Well-developed dorsal abdominal scent-gland openings present between terga 3-4, 4-5, 5-6. Sclerotized area about anterior scent-gland opening pale yellow, becoming dark brown only at lateral edges, elliptical in shape and broader than strongly contrasting black, more ovoid, sclerotized areas present around scent-gland openings between terga 4-5 and 5-6. Mesal area of both eighth tergum and sternum and all of tergum 9 black or chocolate-brown.

Head porrect non-declivous. Eyes in contact with anterolateral pronotal angles. Vertex moderately convex. Tylus attaining distal one-third of first antennal segment. Length head 0,94, width 0,94, interocular space 0,52. Pronotum trapezoid. Lateral pronotal margins narrowly and evenly explanate. Length pronotum 0,81, width 1,25. Length mesothoracic wing pads 1,88. Length abdomen 1,69. Y-suture between terga 3-4 well developed and prominent. Fore femora slender, armed below with a single sharp spine. Hind femora and all tibiae with small sharp spines present. Labium extending well between metacoxae, first segment reaching base of head. Length labial segments I 0,88, II 0,75, III 0,75, IV 0,31. Antennae elongate slender, terete; length antennal segments I 0,44, II 1,04, III 0,94, IV 0,88. Total body length 4,06.

Sweetocoris O'Rourke

Sweetocoris O'Rourke, 1974: 216-217.

This genus of Stygnocorini was established by O'Rourke for a complex of species closely related to *Lasiosomus* Fieber. She included 15 species in the genus, all but one of which were described as new.

Since the greater part of this material was collected by our party (Randall Schuh, Merrill Sweet, James and Samuel Slater) in South Africa in 1967-1968 it seems

appropriate to briefly comment on the biology, distribution and systematic relationships of the taxon.

Most species of *Sweetocoris* are confined in distribution to South Africa. One species extends into the Uluguru Mountains of Tanzania, and two occur in Madagascar. All of the others are known only from South Africa (one into Zimbabwe). There is a marked concentration of species in the south-western Cape. Eight of the 15 species are known only from the Cape Peninsula east to Knysna or Storms River Mouth and inland to the Oudtshoorn area. A ninth species reaches eastward to the Hogsback north of Fort Beaufort. Three species are found in mountainous areas along the Drakensberg Range and at lower elevations in the hills of Swaziland.

All of these species occur almost, if not exclusively, in areas of 'Cape Macchia' vegetation. They are litter-living insects and are usually associated with, and feed on, the ripe seeds of various species of *Erica*. It may be that the seeds of plants of this vast genus are exclusively fed on. Our records are not extensive enough to support this, and most geophilous rhyparochromine lygaeids are not thus restricted in feeding habits. It is probable that, while most South African species of *Sweetocoris* are usually associated with *Erica* spp., at least some of them also feed on other associated plants in the habitat. Under favourable conditions, large populations develop. In the hills above Barberton we found *pseudoceres* O'Rourke and *dissimilis* O'Rourke literally swarming on the seed heads of a species of *Erica* as well as abundant in the deep seed litter below.

Although most of our records associate species of *Sweetocoris* with *Erica* spp., there are a few records that indicate that other seeds are utilized. On 7 March 1968 *Sweetocoris drakensbergensis* O'Rourke was taken at both 1646 m and 2439 m under *Cliffortia linearifolia* Eckl. & Zeyh. North of Knysna *S. nigromaculatus* O'Rourke was associated with the same plant. On 26 January 1968, at 915 m in the Gydo Pass (C.P.), we took a series of *S. parafenestratus* under a species of *Stoebe*.

Frequently when *Sweetocoris* spp. are found in *Erica* seed litter they occur with an assemblage of other rhyparochromines, in particular *Paracnemodus capensis*, species of *Notiocola*, *Botocudo aethiops* and a number of species of *Plinthinus*.

The ecological requirements of the various species have not yet been investigated but offer an interesting area for study. Some species appear to have different habitat preferences. The example of two closely related species that occur on Table Mountain is illustrative. *S. fenestratus* O'Rourke is thus far known only from Table Mountain, where it is abundant on the north face. Here it occurs in damp shaded areas with deep seed litter. We found it to be most abundant in crevices just below the summit of the north face. Many of these crevices could be reached only by the collector lowering himself down the almost vertical face of the mountain. In such crevices drainage is relatively good and the seed litter abundant. By contrast the closely related *S. parafenestratus* (which occurs from Table Mountain east to the Hogsback, C.P.) occurred in seed litter below *Erica exsurgens* Andr. near the cable-car platform on Table Mountain. This is a relatively dry sandy habitat with rock outcrops and has a very different substrate from the deep damp litter in which *fenestratus* occurred. At the Gydo Pass we also took *parafenestratus* under *Stoebe* in a stony arid area on a precipitous slope.

Sweetocoris minutus (Scudder) has rather different habitat requirements from the South African endemic species. It appears to feed upon a variety of seeds, although we were unable to establish definitive evidence of breeding populations associated with specific plants. The endemic *Sweetocoris* are either confined to the southwest Cape or occur in montane areas in patches of Cape flora. *S. minutus*, however, occurs essentially all

over South Africa, even in lowland subtropical areas such as the NE corner of Kruger National Park and in such coastal Natal localities as Charters Creek (St Lucia Estuary), Umtentweni, Umkomaas, etc. (see O'Rourke 1974, pp. 233-234).

O'Rourke (1974) attempted a preliminary cladogram. Some of her 'synapomorphies', such as a black and white colour pattern, pubescence length, wing reduction and shortened appendages, may not prove to be useful for phylogenetic purposes. There are some 'species groups', however, that do seem to be based upon significant features. The transparent 'windows' in the wing membranes of *fenestratus*, *parafenestratus* and *hirsutus* O'Rourke suggest a monophyletic assemblage. The very similar parameres of *slateri* O'Rourke and *dissimilis* on the one hand and *bonspeiensis* O'Rourke, *thunbergi* and *muticus* O'Rourke on the other also suggest close relationships.

Sweetocoris parafenestratus O'Rourke

Description of fifth-instar nymph (Cape Province: Hogsback NW of Fort Beaufort, 16.ii.1968, J. A. & S. Slater, T. Schuh, M. Sweet)

Head, pronotum, scutellum and wing pads bright orange-yellow; suffused with brown on vertex of head, behind eyes, on anterior and posterior pronotal margins, on lateral margins of scutellum and inner one-third and entire distal ends of mesothoracic wing pads. Abdomen predominantly strongly contrasting mottled red. Terga one and two and a broad stripe along entire lateral margins pale yellow. Sclerotization about dorsal abdominal scent-gland openings dark chocolate-brown; subquadrate on all segments; broader anterior to openings than posterior and becoming progressively smaller posteriorly. Sterna seven and eight with a dark brown transverse fascia. A trace of a dark median macula on sternum six. Legs and antennal segments one and two dull yellowish. Antennal segment three darker brown (segment four missing). Dorsal surface thickly clothed with semi-erect hairs.

Head short, stout; vertex moderately convex; tylus slightly declivit, reaching middle of first antennal segment. Eyes in contact with anterolateral corners of pronotum. Length head 0,46, width 0,64, interocular space 0,40. Pronotum subquadrate, lateral margins conspicuously explanate, tapering anteriorly; posterior pronotal margin convex. Length pronotum 0,48, width 0,88. Mesothoracic wing pads broad; strongly explanate laterally; extending caudad midway over third abdominal tergum. Length wing pad 0,74. Y-suture conspicuous on abdomen between terga 3 and 4. Length abdomen 1,46. Labium reaching metacoxae; first segment short, only attaining anterior margin of eye. Length labial segments I 0,32, II 0,30, III 0,32, IV 0,30. Antennae stout, terete. Length antennal segments I 0,24, II 0,46, III 0,52, IV (missing). Total body length 2,80.

The nymph was taken together with a large number (78 collected) of adults in litter below a large bushy species of *Erica* at the summit of the Hogsback. Species of *Dieuches*, *Lethaeus* and *Stigmatonotum* occurred in the same habitat. The plants were growing along a roadside with heavily grazed fields adjacent.

O'Rourke (1974) noted the variability present in this species. It may well be that two closely related but distinct species are involved, for nymphs from Table Mountain taken in association with adults of *parafenestratus* differ somewhat from the above description. The nymphs from Table Mountain have pale brown areas about the dorsal abdominal scent glands and have broad red stripes on either side of each abdominal suture that reach the lateral margins of the abdomen. This results in the pale

yellow lateral markings being confined to ellipsoidal patches in the middle of the lateral portions of each abdominal segment. As previously noted, a series of nymphs and adults was taken on the summit of Table Mountain 24.i.1968 in litter below *Erica exsurgens*.

Sweetocoris slateri O'Rourke

Description of fifth-instar nymph (Cape Province: Mitchell's Pass summit, SW Ceres, 25.i.1968, J. A. & S. Slater, T. Schuh, M. Sweet)

Closely resembles *parafenestratus* in form and colour but differs as follows. Dark colour of mesothoracic wing pads restricted to anterior and posterior areas. Sclerotized area about abdominal scent-gland openings between terga three and four pale brown contrasting with dark chocolate-brown colour of areas about abdominal scent-gland openings between terga 4-5 and 5-6; sclerotized area anterior to gland openings large and ovoid; a broad area on abdomen immediately laterad of dark sclerites around scent glands on tergum three and all of tergum four pale yellow; sterna 5-8 with mesal transverse brown maculae; third and fourth labial segments much shorter than, rather than subequal in length to, segments one and two.

Length head 0,30, width 0,52, interocular space 0,32. Length pronotum 0,34, width 0,74. Length mesothoracic wing pads 0,62. Length abdomen 0,86. Length labial segments I 0,32, II 0,26, III 0,22, IV 0,22. Length antennal segments I 0,16, II 0,32, III 0,30, IV missing. Total body length 1,88.

Sweetocoris minutus Scudder

Description of fifth-instar nymph (Natal: Pietermaritzburg, Town Bush, Queen Elizabeth Park 15.iv.1968, J. A. & S. Slater, T. Schuh)

Head, pronotum, scutellum and mesothoracic wing pads nearly uniformly dark brown, somewhat paler on head behind epicranial sutures, on anterior one-third of pronotum and on explanate flanges of pronotum and wing pads. Abdomen sclerotized and coloured as is *Sweetocoris slateri*. Legs and antennae yellowish-brown; third antennal segment somewhat darker than preceding segments.

Length head 0,44, width 0,50, interocular space 0,31. Length pronotum 0,38, width 0,69. Length mesothoracic wing pads 0,75. Length abdomen 1,0. Length labial segments I 0,28, II 0,25, III 0,19, IV 0,19. Length antennal segments I 0,25, II 0,33, III 0,31, IV 0,44. Total body length 2,51.

Description of egg (same data as nymph above)

Typically 'lygaeoid', elongate, narrowly elliptical, moderately tapering posteriorly. Surface smooth, lacking spines or hairs. Six very short chorionic processes present at anterior end. Length 0,70, maximum width 0,30.

Sweetocoris drakensbergensis O'Rourke

Description of egg (Natal: Sani Pass, 1795 m, 10.iii.1968, J. A. Slater. Eggs laid 16.iii.1968).

Similar to *minutus* but larger and more broadly elliptical. Surface smooth. Six short chorionic processes around anterior pole. Length 0,86, width 0,44.

Lasiosomus Fieber

O'Rourke (1975) has revised this genus of Stygnocorini, which by coincidence now contains the same number of species (15) as does *Sweetocoris* and the same number of Madagascan species (2). The general distribution of species of the two genera is very different. Most of the species of *Sweetocoris* are confined to South Africa. Species of *Lasiosomus* occur at high altitudes on a number of the east African volcanic peaks, in West Africa and in the Palearctic as well as in South Africa.

Three species are known from South Africa: *venda* O'Rourke, known only from the Zoutpansberg (Tvl.); *knysna* O'Rourke, known only from the Knysna Forest (C.P.); and *lasiosomoides* (Bergevin), which is widespread throughout South Africa (and almost throughout the Ethiopian Region) in favourable habitats.

Nothing is known of the biology of either *venda* or *knysna*. (Our collecting notes indicate that this latter species may have been taken on *Cliffortia linearifolia* Eckl. & Zeyh.) *L. lasiosomoides* is frequently found in marshy habitats, where it can be taken by sweeping herbs above the ground level as well, as in seed litter on the ground. It appears to feed upon the seeds of a number of plants and, at least in the south-western Cape, it is sometimes found in seed litter of *Erica* spp. in company with species of *Sweetocoris* (for example in the Kirstenbosch Gardens with *S. fenestratus* and *S. slateri*). On 30 January 1968 we swept a considerable series of *L. lasiosomoides* from the seed heads of *Elegia parviflora* Kunth in the Cape Point Nature Reserve. At Outiniqua Pass, C.P., 20 specimens were taken in deep litter below *Helichrysum petiolatum* (L.) DC.

The host plants upon which it breeds, habitats in which it occurs, and an analysis of geographic variation would be a most interesting study. As O'Rourke (1975) points out, not only can one segregate populations from one another from different parts of South Africa (which suggests a degree of genetic isolation) but also it may be directly ancestral to several of the montane species in tropical Africa. If true, this would pose some intriguing problems for cladists who support the evolutionary concept of strict dichotomous branching.

Lasiosomus lasiosomoides (Bergevin)

Description of fifth-instar nymph (Cape Province: 13 mi. N George, 7.ii.1968, Slater, Schuh & Sweet)

Head, pronotum, scutellum, mesothoracic wing pads, areas about dorsal abdominal scent-gland openings, apex of abdomen, median transverse patches on sterna 5-7 uniformly dark chocolate-brown to almost black. Abdomen uniformly dull red above and below. Femora, tibiae and labium brown, paler at distal ends of leg segments. Tarsi pale yellow. Dark sclerotized area surrounding dorsal abdominal scent-gland openings between terga three and four broader and more elliptical than those on succeeding segments.

Length head 0,50, width 0,56, interocular space 0,31. Length pronotum 0,80, width 0,90. Length mesothoracic wing pads 0,88. Length abdomen 1,25. Length labial segments I 0,31, II 0,34, III 0,28, IV 0,26. Antennae missing. Total body length 2,50.

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REFERENCES

O'ROURKE, F. 1974. *Sweetocoris*, new genus of Stygnocorini from South Africa with the description of fourteen new species (Hemiptera: Lygaeidae). *Journal of the Entomological Society of Southern Africa* **37**: 215-250.

— 1975. A revision of the genus *Lasiosomus* and its relationship to the Stygnocorini (Hemiptera: Lygaeidae). *Revue Zoologie Africaine* **89**, Fasc. 1, 1-36.¹

SLATER, J. A. 1965. Hemiptera (Heteroptera) Lygaeidae. *South African Animal Life (Lund)* **10**: 15-228.

SLATER, J. A. and M. H. SWEET. 1970. The systematics and ecology of new genera and species of primitive Stygnocorini from South Africa, Madagascar and Tasmania (Hemiptera: Lygaeidae). *Annals of the Natal Museum* **20**: 257-292.

SWEET, M. H. 1967. The tribal classification of the Rhyparochrominae (Heteroptera: Lygaeidae). *Annals of the Entomological Society of America* **60**: 208-226.

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¹ The correct date of this publication appears to be 28 March 1975. The reprint cover says on the bottom left 'Date de publication: 28 mars 1974' but at the top right of the first text page is stated 'A paru de 28 mars 1975'. The cover page states this is 'Vol. 89, fasc. 1-1975'. Thus the 1974 date appears to be a *lapsus*.